

FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Johns Manville

AUTHORIZING THE OPERATION OF
Cleburne Plant
Mineral Wool

LOCATED AT
Johnson County, Texas
Latitude 32° 23' 13" Longitude 97° 23' 48"
Regulated Entity Number: RN100213719

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: 01677 Issuance Date: _____

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:
 - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
 - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.
 - C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

- D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.
 - E. Emission units subject to 40 CFR Part 63, Subparts NNN and JJJJ, as identified in the attached Applicable Requirements Summary table, are subject to 30 TAC Chapter 113, Subchapter C, §113.710 and §113.930 which incorporates the 40 CFR Part 63 Subparts by reference.
 - F. For the purpose of generating emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 1 (Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:
 - (i) Title 30 TAC § 101.302 (relating to General Provisions)
 - (ii) Title 30 TAC § 101.303 (relating to Emission Reduction Credit Generation Certification)
 - (iii) Title 30 TAC § 101.304 (relating to Mobile Emission Reduction Credit Generation and Certification)
 - (iv) Title 30 TAC § 101.309 (relating to Emission Credit Banking and Trading)
 - (v) The terms and conditions by which the emission limits are established to generate the reduction credit are applicable requirements of this permit
 - G. For the purpose of generating discrete emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 4 (Discrete Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:
 - (i) Title 30 TAC § 101.372 (relating to General Provisions)
 - (ii) Title 30 TAC § 101.373 (relating to Discrete Emission Reduction Credit Generation and Certification)
 - (iii) Title 30 TAC § 101.374 (relating to Mobile Discrete Emission Reduction Credit Generation and Certification)
 - (iv) Title 30 TAC § 101.378 (relating to Discrete Emission Credit Banking and Trading)
 - (v) The terms and conditions by which the emission limits are established to generate the discrete reduction credit are applicable requirements of this permit
2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):
- A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
 - B. Title 30 TAC § 101.3 (relating to Circumvention)

- C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
 - D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
 - E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
 - F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
 - G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
 - H. Title 30 TAC § 101.221 (relating to Operational Requirements)
 - I. Title 30 TAC § 101.222 (relating to Demonstrations)
 - J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)
3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:
- A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed either before or after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:
 - (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)
 - (ii) Title 30 TAC § 111.111(a)(1)(E)
 - (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
 - (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:
 - (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar

quarter unless the emission unit is not operating for the entire quarter.

- (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
- (3) Records of all observations shall be maintained.
- (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
- (5) Compliance Certification:
 - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
 - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the

source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)
- (iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:

- (1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.
- (2) Records of all observations shall be maintained.
- (3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a

position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

- (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(7) and (a)(7)(A)
- (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader

C. For visible emissions from all other sources not specified in 30 TAC § 111.111(a)(1), (4), or (7); the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(8)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(8)(B)(i) or (ii)
- (iii) For a source subject to 30 TAC § 111.111(a)(8)(A), complying with 30 TAC § 111.111(a)(8)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:
 - (1) An observation of visible emissions from a source which is required to comply with 30 TAC § 111.111(a)(8)(A) shall be

conducted at least once during each calendar quarter unless the source is not operating for the entire quarter.

- (2) Records of all observations shall be maintained.
- (3) Visible emissions observations of sources operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of sources operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each source in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each source during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
- (4) Compliance Certification:
 - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(8) and (a)(8)(A)
 - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(8)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- D. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

- E. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).
- F. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
 - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)
 - (ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)
 - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
- 4. For storage vessels maintaining working pressure as specified in 30 TAC Chapter 115, Subchapter B, Division 1: Storage of Volatile Organic Compounds, the permit holder shall comply with the requirements of 30 TAC § 115.112(e)(1).
- 5. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:
 - A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)
 - B. Title 40 CFR § 60.8 (relating to Performance Tests)
 - C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)
 - D. Title 40 CFR § 60.12 (relating to Circumvention)
 - E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)
 - F. Title 40 CFR § 60.14 (relating to Modification)
 - G. Title 40 CFR § 60.15 (relating to Reconstruction)
 - H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)
- 6. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.
- 7. The permit holder shall comply with certified registrations submitted to the TCEQ for purposes of establishing federally enforceable emission limits. A copy of the certified registration shall be maintained with the permit. Records sufficient to demonstrate compliance with the established limits shall be maintained. The certified registration and records demonstrating compliance shall be provided, on request, to representatives of the appropriate TCEQ regional office and any local air pollution control agency having jurisdiction over the site. The permit holder shall submit updated certified registrations when changes at the site require establishment of new emission limits. If changes result in emissions that do not remain below major source thresholds, the

permit holder shall submit a revision application to codify the appropriate requirements in the permit.

Additional Monitoring Requirements

8. Unless otherwise specified, the permit holder shall comply with the compliance assurance monitoring requirements as specified in the attached “CAM Summary” upon issuance of the permit. In addition, the permit holder shall comply with the following:
 - A. The permit holder shall comply with the terms and conditions contained in 30 TAC § 122.147 (General Terms and Conditions for Compliance Assurance Monitoring).
 - B. The permit holder shall report, consistent with the averaging time identified in the “CAM Summary,” deviations as defined by the deviation limit in the “CAM Summary.” Any monitoring data below a minimum limit or above a maximum limit, that is collected in accordance with the requirements specified in 40 CFR § 64.7(c), shall be reported as a deviation. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).
 - C. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the “CAM Summary,” for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).
 - D. The permit holder shall operate the monitoring, identified in the attached “CAM Summary,” in accordance with the provisions of 40 CFR § 64.7.
 - E. The permit holder shall comply with either of the following requirements for any particulate matter capture system associated with the control device subject to CAM. If the results of the following inspections indicate that the capture system is not working properly, the permit holder shall promptly take necessary corrective action:
 - (i) Once per year the permit holder shall inspect any fan for proper operation and inspect the capture system used in compliance of CAM for cracks, holes, tears, and other defects; or
 - (ii) Once per year, the permit holder shall inspect for fugitive emissions escaping from the capture system in compliance of CAM by performing a visible emissions observation for a period of at least six minutes in accordance with 40 CFR Part 60, Appendix A, Test Method 22.
 - F. The permit holder shall comply with either of the following requirements for any bypass of the control device subject to CAM. If the results of the following inspections or monitoring indicate bypass of the control device, the permit holder shall promptly take necessary corrective actions and report a deviation:
 - (i) Install a flow indicator that is capable of recording flow, at least once every fifteen minutes, immediately downstream of each valve that if

opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

- (ii) Once a month, the permit holder shall inspect the valves checking the position of the valves and the condition of the car seals. Identify all times when the car seal has been broken and the valve position has been changed to allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere.

G. The permit holder shall comply with the requirements of 40 CFR § 70.6(a)(3)(ii)(A) and 30 TAC § 122.144(1)(A)-(F) for documentation of all required inspections.

9. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

10. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
- A. Are incorporated by reference into this permit as applicable requirements
 - B. Shall be located with this operating permit
 - C. Are not eligible for a permit shield
11. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.
12. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data,

engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

13. The permit holder shall comply with the following requirements for Air Quality Standard Permits:
 - A. Registration requirements listed in 30 TAC § 116.611, unless otherwise provided for in an Air Quality Standard Permit
 - B. General Conditions listed in 30 TAC § 116.615, unless otherwise provided for in an Air Quality Standard Permit
 - C. Applicable requirements of 30 TAC § 116.617 for Pollution Control Projects based on the information contained in the registration application.

Compliance Requirements

14. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.
15. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:
 - A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:
 - (i) For sources in the Dallas-Fort Worth Eight-Hour Nonattainment area, 30 TAC § 117.9030
 - B. The permit holder shall comply with the Initial Control Plan unit identification requirements in 30 TAC § 117.450(a) and (a)(1).
 - C. The permit holder shall comply with the requirements of 30 TAC § 117.454 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.456 for Revision of Final Control Plan.
16. Use of Emission Credits to comply with applicable requirements:
 - A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:
 - (i) Title 30 TAC Chapter 115

- (ii) Title 30 TAC Chapter 117
 - (iii) Offsets for Title 30 TAC Chapter 116
 - B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:
 - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)(2)
 - (ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1
 - (iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)(2)
 - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122
 - (v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)
17. Use of Discrete Emission Credits to comply with the applicable requirements:
- A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:
 - (i) Title 30 TAC Chapter 115
 - (ii) Title 30 TAC Chapter 117
 - (iii) If applicable, offsets for Title 30 TAC Chapter 116
 - (iv) Temporarily exceed state NSR permit allowables
 - B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:
 - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)
 - (ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4
 - (iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)
 - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

- (v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Protection of Stratospheric Ozone

- 18. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:
 - A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

Permit Location

- 19. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

- 20. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Unit Summary 16

Applicable Requirements Summary 19

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|---------------|--|-------------------------|
| 16 | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |
| 17 | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |
| 18 | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |
| 19 | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |
| 20 | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R512 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |
| F901 | PROCESS HEATERS/FURNACES | N/A | R7400 | 30 TAC Chapter 117, Subchapter B | No changing attributes. |
| F901 | GLASS MANUFACTURING UNITS | N/A | 60CC | 40 CFR Part 60, Subpart CC | No changing attributes. |
| F902 | PROCESS HEATERS/FURNACES | N/A | R7400 | 30 TAC Chapter 117, Subchapter B | No changing attributes. |
| F902 | WOOL FIBERGLASS MANUFACTURING | N/A | 63NNN-902 | 40 CFR Part 63, Subpart NNN | No changing attributes. |
| F91A | WOOL FIBERGLASS MANUFACTURING | N/A | 63NNN-F91A | 40 CFR Part 63, Subpart NNN | No changing attributes. |
| F91B | WOOL FIBERGLASS MANUFACTURING | N/A | 63NNN-F91B | 40 CFR Part 63, Subpart NNN | No changing attributes. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|-------------------------------|---|---------------|--|-------------------------|
| FHFUG | PROCESS HEATERS/FURNACES | N/A | R7400 | 30 TAC Chapter 117, Subchapter B | No changing attributes. |
| GEN1 | SRIC ENGINES | N/A | R7400 | 30 TAC Chapter 117, Subchapter B | No changing attributes. |
| GEN2 | SRIC ENGINES | N/A | R7400 | 30 TAC Chapter 117, Subchapter B | No changing attributes. |
| GRPTANK | STORAGE TANKS/VESSELS | CATLYSTNK, TANK1, TANK10, TANK11, TANK19, TANK2, TANK20, TANK21, TANK22, TANK28, TANK29, TANK3, TANK30, TANK31, TANK34, TANK35, TANK36, TANK37, TANK38, TANK4, TANK40, TANK42, TANK43, TANK45, TANK46, TANK47, TANK48, TANK49, TANK5, TANK50, TANK54, TANK55, TANK57, TANK58, TANK68, TANK69, TANK70, TANK9, TK-DOIL | R5112 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| PRO-LINE90 | SURFACE COATING OPERATIONS | N/A | R5421 | 30 TAC Chapter 115, Surface Coating Operations | No changing attributes. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|---------------|--|-------------------------|
| PRO-LINE91 | WOOL FIBERGLASS INSULATION MANUFACTURING PLANTS | N/A | 60PPP | 40 CFR Part 60, Subpart PPP | No changing attributes. |
| PRO-LINE91 | WOOL FIBERGLASS INSULATION MANUFACTURING PLANTS | N/A | 63JJJJ | 40 CFR Part 63, Subpart JJJJ | No changing attributes. |
| PRO-LINE92 | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |
| PRO-LINE93 | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |
| PRO-LINE97 | SURFACE COATING OPERATIONS | N/A | R5421 | 30 TAC Chapter 115, Surface Coating Operations | No changing attributes. |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|---|-------------------------------------|--|--|
| 16 | EP | R5121 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) < 100 lbs (45.4 kg) in any continuous 24-hour period is exempt from the requirements of § 115.121(a)(1). | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| 17 | EP | R5121 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) < 100 lbs (45.4 kg) in any continuous 24-hour period is exempt from the requirements of § 115.121(a)(1). | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| 18 | EP | R5121 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) < 100 lbs (45.4 kg) in any continuous 24-hour period is exempt from the requirements of § 115.121(a)(1). | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| 19 | EP | R5121 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) < 100 lbs (45.4 kg) in any continuous 24-hour period is exempt from the requirements of § 115.121(a)(1). | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------------|---------------------------------------|--|--|--|---|---|
| 20 | EP | R512 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(B) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream specified in § 115.121(a)(1) of this title with a concentration of VOC < 612 ppmv is exempt from § 115.121(a)(1). | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| F901 | EU | R7400 | NO _x | 30 TAC Chapter 117, Subchapter B | § 117.400 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B |
| F901 | EU | 60CC | PM | 40 CFR Part 60, Subpart CC | § 60.292(a)(1) § 60.292(e) § 60.292(e)(1) § 60.292(e)(2) | No glass melting furnace, fired exclusively with either a gaseous or a liquid fuel, shall discharge PM at emission rates exceeding those specified in Table CC-1, Column 2 and Column 3, respectively. | § 60.296(a) § 60.296(c) § 60.296(d) § 60.296(d)(1) § 60.296(d)(2) § 60.296(d)(3) ** See CAM Summary | None | § 60.292(e)(3) § 60.296(a) |
| F902 | EU | R7400 | NO _x | 30 TAC Chapter 117, Subchapter B | § 117.400 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|--|---|---|---|--|
| F902 | EU | 63NNN-902 | PM | 40 CFR Part 63, Subpart NNN | § 63.1382(a)-Table 2.1 § 63.1382(a) § 63.1382(c) [G]§ 63.1382(c)(1) § 63.1382(c)(11) [G]§ 63.1382(c)(5) [G]§ 63.1382(c)(8) | Permit holder must control emissions from each glass-melting furnace, rotary spin manufacturing line, and flame attenuation manufacturing line as specified in Table 2 to this subpart, no person may discharge any gases containing PM in excess of 0.5 lb PM per ton of glass pulled. | [G]§ 63.1383(a) [G]§ 63.1383(c) § 63.1383(f) § 63.1383(m) 63.1384(a) § 63.1384(a)(1) § 63.1384(a)(2) § 63.1384(a)(3) § 63.1384(a)(4) § 63.1384(a)(5) § 63.1384(b) § 63.1384(e) | [G]§ 63.1386(c) [G]§ 63.1386(d)(1) § 63.1386(d)(2)(ii) § 63.1386(d)(2)(ix) § 63.1386(d)(2)(xi) [G]§ 63.1389(f) | [G]§ 63.1386(c) § 63.1386(e) [G]§ 63.1386(f) § 63.1386(g) |
| F902 | EU | 63NNN-902 | HF/HCL | 40 CFR Part 63, Subpart NNN | [G]§ 63.1382(b) | On/after July 29, 2015 to reduce emissions of HCL and HF from each existing, new, or reconstructed glass-melting furnace, you must either require cullet providers to provide records of their inspections, or sample raw materials and maintain records showing that no glass from industrial (also known as continuous strand, or textile) fiberglass, cathode ray tubes (CRT), computer monitors that include CRT, and glass from microwave ovens, televisions or other electronics is included in the cullet. | [G]§ 63.1382(b) | [G]§ 63.1382(b) § 63.1386(d)(2)(x) § 63.1386(d)(2)(xi) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|---|--|---|---|
| F91A | EU | 63NNN-F91A | PM | 40 CFR Part 63, Subpart NNN | § 63.1382(a)-Table2.1 § 63.1382(a) § 63.1382(c) [G]§ 63.1382(c)(1) [G]§ 63.1382(c)(5) [G]§ 63.1382(c)(8) | After the date which the performance test required by §63.7 is completed, no person may discharge any gases containing PM in excess of 0.5 lb/ton of glass pulled. | [G]§ 63.1383(a) [G]§ 63.1383(b) § 63.1383(f) § 63.1383(m) § 63.1384(a) § 63.1384(a)(1) § 63.1384(a)(2) § 63.1384(a)(3) § 63.1384(b) § 63.1384(e) § 63.1385(a) § 63.1385(a)(5) § 63.1385(b) | [G]§ 63.1386(c) [G]§ 63.1386(d)(1) § 63.1386(d)(2)(i) § 63.1386(d)(2)(ix) § 63.1389(f)(2) | [G]§ 63.1386(a) [G]§ 63.1386(c) § 63.1386(e) [G]§ 63.1386(f) § 63.1386(g) |
| F91A | EU | 63NNN-F91A | HF/HCL | 40 CFR Part 63, Subpart NNN | [G]§ 63.1382(b) | On/after July 29, 2015 to reduce emissions of HCL and HF from each existing, new, or reconstructed glass-melting furnace, you must either require cullet providers to provide records of their inspections, or sample raw materials and maintain records showing that no glass from industrial (also known as continuous strand, or textile) fiberglass, cathode ray tubes (CRT), computer monitors that include CRT, and glass from microwave ovens, televisions or other electronics is included in the cullet. | [G]§ 63.1382(b) | [G]§ 63.1382(b) § 63.1386(d)(2)(x) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|---|--|---|---|
| F91B | EU | 63NNN-F91B | PM | 40 CFR Part 63, Subpart NNN | § 63.1382(a)-Table2.1 § 63.1382(a) § 63.1382(c) [G]§ 63.1382(c)(1) [G]§ 63.1382(c)(5) [G]§ 63.1382(c)(8) | After the date which the performance test required by §63.7 is completed, no person may discharge any gases containing PM in excess of 0.5 lb/ton of glass pulled. | [G]§ 63.1383(a) [G]§ 63.1383(b) § 63.1383(f) § 63.1383(m) § 63.1384(a) § 63.1384(a)(1) § 63.1384(a)(2) § 63.1384(a)(3) § 63.1384(b) § 63.1384(e) § 63.1385(a) § 63.1385(a)(5) § 63.1385(b) | [G]§ 63.1386(c) [G]§ 63.1386(d)(1) § 63.1386(d)(2)(i) § 63.1386(d)(2)(ix) § 63.1389(f)(2) | [G]§ 63.1386(a) [G]§ 63.1386(c) § 63.1386(e) [G]§ 63.1386(f) § 63.1386(g) |
| F91B | EU | 63NNN-F91B | HF/HCL | 40 CFR Part 63, Subpart NNN | [G]§ 63.1382(b) | On/after July 29, 2015 to reduce emissions of HCL and HF from each existing, new, or reconstructed glass-melting furnace, you must either require cullet providers to provide records of their inspections, or sample raw materials and maintain records showing that no glass from industrial (also known as continuous strand, or textile) fiberglass, cathode ray tubes (CRT), computer monitors that include CRT, and glass from microwave ovens, televisions or other electronics is included in the cullet. | [G]§ 63.1382(b) | [G]§ 63.1382(b) § 63.1386(d)(2)(x) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------------|---------------------------------------|--|---|--|---|---|
| FHFUG | EU | R7400 | NO _x | 30 TAC Chapter 117, Subchapter B | § 117.400 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B |
| GEN1 | EU | R7400 | NO _x | 30 TAC Chapter 117, Subchapter B | § 117.400 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B |
| GEN2 | EU | R7400 | NO _x | 30 TAC Chapter 117, Subchapter B | § 117.400 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B | The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|--|---|--|---|---|
| GRPTANK | EU | R5112 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.111(a)(1) | Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division. | [G]§ 115.117 | § 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7) | None |
| PRO-LINE90 | PRO | R5421 | VOC | 30 TAC Chapter 115, Surface Coating Operations | § 115.420 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Surface Coating Operations |
| PRO-LINE91 | PRO | 60PPP | PM | 40 CFR Part 60, Subpart PPP | § 60.682 | After the date which the performance test required by §60.8 is completed, no person may discharge any gases containing PM in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled. | § 60.683(a) § 60.683(c) § 60.684(e) § 60.685(a) § 60.685(b) [G]§ 60.685(c) § 60.685(d) ** See Periodic Monitoring Summary | § 60.684(a) § 60.684(c) § 60.684(e) | § 60.684(d) § 60.684(e) § 60.685(d) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|------------|---------------------------------------|---|--|-------------------------------------|---|---|
| PRO-LINE91 | EU | 63JJJJ | 112(B)HAPS | 40 CFR Part 63, Subpart JJJJ | § 63.3320(b)(1) § 63.3320(a) § 63.3330(a) | You must limit organic HAP emissions to no more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources. | § 63.3360(a)(1) § 63.3360(c)(3) | § 63.3410(a) § 63.3410(a)(1) § 63.3410(a)(1)(iii) | [G]§ 63.3400(c)(2)(i)-(iv) § 63.3400(a) § 63.3400(b)(1) § 63.3400(c) [G]§ 63.3400(c)(1) § 63.3400(e) |
| PRO-LINE92 | EP | R5121 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) < 100 lbs (45.4 kg) in any continuous 24-hour period is exempt from the requirements of § 115.121(a)(1). | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| PRO-LINE93 | EP | R5121 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) < 100 lbs (45.4 kg) in any continuous 24-hour period is exempt from the requirements of § 115.121(a)(1). | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition I.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|--|---|--|---|---|
| PRO-LINE97 | PRO | R5421 | VOC | 30 TAC Chapter 115, Surface Coating Operations | § 115.420 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Surface Coating Operations | The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Surface Coating Operations |

Additional Monitoring Requirements

| | |
|--|-----------|
| Compliance Assurance Monitoring Summary | 29 |
| Periodic Monitoring Summary | 31 |

CAM Summary

| Unit/Group/Process Information | |
|--|--|
| ID No.: F901 | |
| Control Device ID No.: 15A | Control Device Type: Wet or Dry Electrostatic Precipitator |
| Applicable Regulatory Requirement | |
| Name: 40 CFR Part 60, Subpart CC | SOP Index No.: 60CC |
| Pollutant: PM | Main Standard: § 60.292(a)(1) |
| Monitoring Information | |
| Indicator: Secondary Voltage | |
| Minimum Frequency: once per day | |
| Averaging Period: n/a* | |
| Deviation Limit: 2 fields operational: minimum secondary voltage for both fields = 36kV. 3 fields operational: one field minimum secondary voltage = 36kV; two remaining minimum secondary voltage = 30kV. | |
| <p>CAM Text: Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 2% of reading; or ± 5% over its operating range. | |

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

CAM Summary

| Unit/Group/Process Information | |
|--|--|
| ID No.: F901 | |
| Control Device ID No.: 15A | Control Device Type: Wet or Dry Electrostatic Precipitator |
| Applicable Regulatory Requirement | |
| Name: 40 CFR Part 60, Subpart CC | SOP Index No.: 60CC |
| Pollutant: PM | Main Standard: § 60.292(a)(1) |
| Monitoring Information | |
| Indicator: Secondary Current | |
| Minimum Frequency: once per day | |
| Averaging Period: n/a* | |
| Deviation Limit: 2 fields operational: secondary current for both fields between 36mA and 690mA. 3 fields operational: secondary current between 170mA and 690mA. | |
| <p>CAM Text: Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 1% of reading; or ± 5% over its operating range. | |

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|--|-----------------------------------|
| ID No.: PRO-LINE91 | |
| Control Device ID No.: 16 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 17 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 18 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 19 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 20 | Control Device Type: Wet Scrubber |
| Applicable Regulatory Requirement | |
| Name: 40 CFR Part 60, Subpart PPP | SOP Index No.: 60PPP |
| Pollutant: PM | Main Standard: 60.682 |
| Monitoring Information | |
| Indicator: Pressure Drop | |
| Minimum Frequency: Once per week | |
| Averaging Period: n/a* | |
| Deviation Limit: Minimum pressure drop (16, 17, 18, 19) = 4.66 inches; minimum pressure drop (20) = 12.86 inches | |
| Periodic Monitoring Text: Measure and record the pressure drop. The monitoring instrumentation shall be maintained and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the deviation limit shall be considered and reported as a deviation. | |

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|---|-----------------------------------|
| ID No.: PRO-LINE91 | |
| Control Device ID No.: 16 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 17 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 18 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 19 | Control Device Type: Wet Scrubber |
| Control Device ID No.: 20 | Control Device Type: Wet Scrubber |
| Applicable Regulatory Requirement | |
| Name: 40 CFR Part 60, Subpart PPP | SOP Index No.: 60PPP |
| Pollutant: PM | Main Standard: 60.682 |
| Monitoring Information | |
| Indicator: Liquid Flow Rate | |
| Minimum Frequency: Once per week | |
| Averaging Period: n/a* | |
| Deviation Limit: Minimum liquid flow rate = 375 gpm | |
| Periodic Monitoring Text: Measure and record the liquid flow rate. The monitoring instrumentation shall be calibrated, maintained and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the deviation limit shall be considered and reported as a deviation. | |

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Permit Shield

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Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|-----------------------|--|--|
| ID No. | Group/Inclusive Units | | |
| 90OVEN | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| 90OVEN | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| 91OVEN | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator. |
| 91OVEN | N/A | 30 TAC Chapter 117, Subchapter B | Capacity < 5MMBtu/hr |
| 92TRNPOT | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| 92TRNPOT | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| 97O1 | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| 97O1 | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| 97O2 | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| 97O2 | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| AHTANK | N/A | 30 TAC Chapter 115, Storage of VOCs | Does not store a VOC |
| AHTANK | N/A | 40 CFR Part 60, Subpart Kb | Does not store a VOL. |
| DEGREASER | N/A | 30 TAC Chapter 115, Degreasing Processes | A remote reservoir cold cleanser using a solvent with a TVP < 0.6 psia at 100 degrees F, a drain area < 16 sq in, and waste solvent is disposed of in enclosed containers. |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|-----------------------|--------------------------------------|--|
| ID No. | Group/Inclusive Units | | |
| DEGREASER | N/A | 40 CFR Part 63, Subpart T | Does not use a listed solvent in a total concentration > 5% by weight as a cleaning and/or drying agent. |
| DRYTUNFUG | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| F902 | N/A | 40 CFR Part 60, Subpart CC | Glass furnace was constructed prior to June 15, 1979. |
| F91A | N/A | 40 CFR Part 60, Subpart CC | Unit is all-electric melter. |
| F91B | N/A | 40 CFR Part 60, Subpart CC | Unit is all-electric melter. |
| FG92-CF | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel-fired steam generator. |
| FG92-CF | N/A | 30 TAC Chapter 117, Commercial | A forming oven or forming process used in mineral wool-type fiberglass manufacturing. |
| FG92-CO | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel-fired steam generator. |
| FG92-CO | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| FG93-CF | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel-fired steam generator. |
| FG93-CF | N/A | 30 TAC Chapter 117, Commercial | A forming oven or forming process used in mineral wool-type fiberglass manufacturing. |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|-----------------------|--------------------------------------|--|
| ID No. | Group/Inclusive Units | | |
| FG93-CO | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel-fired steam generator. |
| FG93-CO | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| FH-EAST | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| FH-EAST | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| FHFUG2 | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| FH-WEST | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| FH-WEST | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| FMFUG | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| GEN1 | N/A | 40 CFR Part 63, Subpart ZZZZ | Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year. |
| GEN2 | N/A | 40 CFR Part 63, Subpart ZZZZ | Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year. |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|---|-------------------------------------|---|
| ID No. | Group/Inclusive Units | | |
| GRP-COOL | 91-CT1, 91-CT2, E-CT1, E-CT2, E-CT3, P&M-CT1, P&M-CT2 | 40 CFR Part 63, Subpart Q | Cooling tower does not operate with chromium-based water treatment chemicals. |
| GRPPRESS | TANK63, TANK64, TANK65 | 40 CFR Part 60, Subpart Kb | Tanks are less than 19,800 gallons |
| GRPSMALL | DIESEL1, DIESEL2, DIESEL3, SULHLDTNK, TANK12, TANK13, TANK18, TANK23, TANK32, TANK33, TANK41, TANK51, TANK52, TANK53, TANK59, TANK6, TANK60, TANK61, TANK62, TANK7, TANK71, TANK8, UNLEAD1, UREMIXTNK | 30 TAC Chapter 115, Storage of VOCs | Tanks are less than 1,000 gallons |
| GRPSMALL | DIESEL1, DIESEL2, DIESEL3, SULHLDTNK, TANK12, TANK13, TANK18, TANK23, TANK32, TANK33, TANK41, TANK51, TANK52, TANK53, TANK59, TANK6, TANK60, TANK61, TANK62, TANK7, TANK71, TANK8, UNLEAD1, UREMIXTNK | 40 CFR Part 60, Subpart Kb | Tanks are less than 19,800 gallons |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|--|--------------------------------------|--|
| ID No. | Group/Inclusive Units | | |
| GRPTANK | CATLYSTNK, TANK1, TANK10, TANK11, TANK19, TANK2, TANK20, TANK21, TANK22, TANK28, TANK29, TANK3, TANK30, TANK31, TANK34, TANK35, TANK36, TANK37, TANK38, TANK4, TANK40, TANK42, TANK43, TANK45, TANK46, TANK47, TANK48, TANK49, TANK5, TANK50, TANK54, TANK55, TANK57, TANK58, TANK68, TANK69, TANK70, TANK9, TK-DOIL | 40 CFR Part 60, Subpart Kb | Tanks are less than 19,800 gallons |
| HEAT1 | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| HEAT1 | N/A | 30 TAC Chapter 117, Subchapter B | Natural gas-fired heaters used exclusively for providing comfort heat to areas designed for human occupancy. |
| LHT | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| LHT | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |
| MARBLELEHR | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| MARBLELEHR | N/A | 30 TAC Chapter 117, Commercial | Capacity < 5MMBtu/hr |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|-----------------------|-------------------------------|---|
| ID No. | Group/Inclusive Units | | |
| PRO-LINE90 | N/A | 40 CFR Part 63, Subpart DDDDD | Does not meet the definition of “Process Heater” in this subpart, due to not qualifying as enclosed device/controlled flame and/or direct contact with process material. |
| PRO-LINE90 | N/A | 40 CFR Part 63, Subpart OOOO | Fabric and other textile substrate web coating or printing operations conducted at ambient temperatures that does not involve drying or curing equipment such as ovens, tenter frames, steam cans, or dryers. |
| PRO-LINE91 | N/A | 40 CFR Part 63, Subpart DDDDD | Does not meet the definition of “Process Heater” in this subpart, due to not qualifying as enclosed device/controlled flame and/or direct contact with process material. |
| PRO-LINE91 | N/A | 40 CFR Part 63, Subpart NNN | Products produced on this line do not meet the definition of bonded wool fiberglass building insulation product. |
| PRO-LINE92 | N/A | 40 CFR Part 60, Subpart PPP | The facility does not manufacture rotary spun wool fiberglass insulation. |
| PRO-LINE92 | N/A | 40 CFR Part 63, Subpart DDDDD | Does not meet the definition of “Process Heater” in this subpart, due to not qualifying as enclosed device/controlled flame and/or direct contact with process material. |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|-----------------------|--------------------------------------|---|
| ID No. | Group/Inclusive Units | | |
| PRO-LINE92 | N/A | 40 CFR Part 63, Subpart NNN | Existing flame attenuation line does not produce pipe product wool fiberglass. |
| PRO-LINE93 | N/A | 40 CFR Part 60, Subpart PPP | The facility does not manufacture rotary spun wool fiberglass insulation. |
| PRO-LINE93 | N/A | 40 CFR Part 63, Subpart DDDDD | Does not meet the definition of "Process Heater" in this subpart, due to not qualifying as enclosed device/controlled flame and/or direct contact with process material. |
| PRO-LINE93 | N/A | 40 CFR Part 63, Subpart NNN | Existing flame attenuation line does not produce pipe product wool fiberglass. |
| PRO-LINE97 | N/A | 40 CFR Part 63, Subpart DDDDD | Does not meet the definition of "Process Heater" in this subpart, due to not qualifying as enclosed device/controlled flame and/or direct contact with process material. |
| PRO-LINE97 | N/A | 40 CFR Part 63, Subpart OOOO | Fabric and other textile substrate web coating or printing operations conducted at ambient temperatures that does not involve drying or curing equipment such as ovens, tenter frames, steam cans, or dryers. |
| RNGBRNR | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit/Group/Process | | Regulation | Basis of Determination |
|--------------------|-----------------------|---|---|
| ID No. | Group/Inclusive Units | | |
| RNGBRNR | N/A | 30 TAC Chapter 117, Commercial | Curing oven used in mineral wool-type fiberglass manufacturing in which nitrogen-bound chemical additives are used. |
| STEAMCLNR | N/A | 30 TAC Chapter 112, Sulfur Compounds | Not a liquid or solid fuel fired steam generator |
| STEAMCLNR | N/A | 30 TAC Chapter 117, Subchapter B | Not an affected unit. |
| TANK39 | N/A | 30 TAC Chapter 115, Storage of VOCs | Does not store a VOC |
| TANK39 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| TANK66 | N/A | 30 TAC Chapter 115, Storage of VOCs | Does not store VOC |
| TANK66 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| TANK67 | N/A | 30 TAC Chapter 115, Storage of VOCs | Does not store a VOC |
| TANK67 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| TK-LFC1 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| TK-LFC2 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| WWT | N/A | 30 TAC Chapter 115, Industrial Wastewater | Not an affected source category. |

New Source Review Authorization References

| | |
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| New Source Review Authorization References by Emission Unit | 44 |

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Prevention of Significant Deterioration (PSD) Permits | |
|---|------------------------------|
| PSD Permit No.: PSDTX1025M1 | Issuance Date: 06/08/2015 |
| Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area. | |
| Authorization No.: 130233 | Issuance Date: 02/23/2015 |
| Authorization No.: 946A | Issuance Date: 06/08/2015 |
| Permits By Rule (30 TAC Chapter 106) for the Application Area | |
| Number: 106.144 | Version No./Date: 09/04/2000 |
| Number: 106.183 | Version No./Date: 09/04/2000 |
| Number: 106.261 | Version No./Date: 11/01/2003 |
| Number: 106.262 | Version No./Date: 11/01/2003 |
| Number: 106.371 | Version No./Date: 09/04/2000 |
| Number: 106.418 | Version No./Date: 09/04/2000 |
| Number: 106.433 | Version No./Date: 09/04/2000 |
| Number: 106.454 | Version No./Date: 09/04/2000 |
| Number: 106.472 | Version No./Date: 09/04/2000 |
| Number: 106.473 | Version No./Date: 09/04/2000 |
| Number: 106.476 | Version No./Date: 09/04/2000 |
| Number: 106.478 | Version No./Date: 09/04/2000 |
| Number: 106.511 | Version No./Date: 09/04/2000 |
| Number: 106.532 | Version No./Date: 09/04/2000 |
| Number: 51 | Version No./Date: 09/12/1989 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization |
|---------------------------|---|---------------------------------|
| 16 | LINE 91 COLLECTION WET SCRUBBER NO.1 STACK | 946A, PSDTX1025M1 |
| 17 | LINE 91 COLLECTION WET SCRUBBER NO.2 STACK | 946A, PSDTX1025M1 |
| 18 | LINE 91 COLLECTION WET SCRUBBER NO.3 STACK | 946A, PSDTX1025M1 |
| 19 | LINE 91 COLLECTION WET SCRUBBER NO.4 STACK | 946A, PSDTX1025M1 |
| 20 | LINE 91 OVEN WET SCRUBBER (W/RING BURNER) STACK | 946A, PSDTX1025M1 |
| 90OVEN | LINE 90 OVEN | 106.183/09/04/2000 |
| 91-CT1 | LINE 91 COOLING TOWER 1 | 106.371/09/04/2000 |
| 91-CT2 | LINE 91 COOLING TOWER 2 | 106.371/09/04/2000 |
| 91OVEN | LINE 91 OVEN | 946A, PSDTX1025M1 |
| 92TRNPOT | 92 TRAINING POT | 106.183/09/04/2000 |
| 97O1 | LINE 97 OVEN 1 | 106.433/09/04/2000 |
| 97O2 | LINE 97 OVEN 2 | 106.433/09/04/2000 |
| AHTANK | ALUMINUM HYDROCHLORIDE TANK | 106.472/09/04/2000 |
| CATLYSTNK | CATALYST TANK | 106.472/09/04/2000 |
| DEGREASER | DEGREASERS | 106.454/09/04/2000 |
| DIESEL1 | DIESEL TANK | 106.472/09/04/2000 |
| DIESEL2 | E-GLASS GENERATOR DIESEL TANK | 106.472/09/04/2000 |
| DIESEL3 | HERM GENERATOR DIESEL TANK | 106.472/09/04/2000 |
| DRYTUNFUG | GYP SUM DRYING TUNNEL | 946A, PSDTX1025M1 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization |
|---------------------------|-----------------------------------|---------------------------------|
| E-CT1 | E-GLASS COOLING TOWER 1 | 106.371/09/04/2000 |
| E-CT2 | E-GLASS COOLING TOWER 2 | 106.371/09/04/2000 |
| E-CT3 | E-GLASS COOLING TOWER 3 | 106.371/09/04/2000 |
| F901 | E-GLASS FURNACE NO. 901 | 946A, PSDTX1025M1 |
| F902 | GLASS MARBLE FURNACE NO. 2 | 946A, PSDTX1025M1 |
| F902 | GLASS MARBLE FURNACE NO. 902 | 946A, PSDTX1025M1 |
| F91A | UNIT #91 ELECTRIC GLASS FURNACE A | 946A, PSDTX1025M1 |
| F91A | UNIT #91 ELECTRIC GLASS FURNACE A | 946A, PSDTX1025M1 |
| F91B | UNIT #91 ELECTRIC GLASS FURNACE B | 946A, PSDTX1025M1 |
| FG92-CF | UNIT #92 COLLECTION/FORMING | 946A, PSDTX1025M1 |
| FG92-CO | UNIT #92 OVEN (CURING) | 946A, PSDTX1025M1 |
| FG93-CF | UNIT # 93 COLLECTION/FORMING | 946A, PSDTX1025M1 |
| FG93-CO | UNIT #93 OVEN (CURING) | 946A, PSDTX1025M1 |
| FH-EAST | LINE 91 FOREHEARTH (EAST) | 106.183/09/04/2000 |
| FHFUG | 1901 FOREHEARTH | 946A, PSDTX1025M1 |
| FHFUG2 | 1902 FURNACE FOREHEARTH | 946A, PSDTX1025M1 |
| FH-WEST | LINE 91 FOREHEARTH (WEST) | 106.183/09/04/2000 |
| FMFUG | 1901 FORMING AREA | 946A, PSDTX1025M1 |
| GEN1 | E-GLASS EMERGENCY GENERATOR | 106.511/09/04/2000 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization |
|---------------------------|--------------------------------|---------------------------------------|
| GEN2 | HERM EMERGENCY GENERATOR | 106.511/09/04/2000 |
| HEAT1 | COMFORT HEATERS | 106.183/09/04/2000 |
| LHT | LINE 91 LAMINATE HEATING TABLE | 946A, PSDTX1025M1 |
| MARBLELEHR | MARBLE LEHRS | 106.183/09/04/2000 |
| P&M-CT1 | POT & MARBLE COOLING TOWER 1 | 106.371/09/04/2000 |
| P&M-CT2 | POT & MARBLE COOLING TOWER 2 | 106.371/09/04/2000 |
| PRO-LINE90 | SURFACE COATING OPERATION | 106.433/09/04/2000 |
| PRO-LINE91 | LINE #91 | 946A, 106.433/09/04/2000, PSDTX1025M1 |
| PRO-LINE91 | PRO-LINE91 | 946A, PSDTX1025M1 |
| PRO-LINE92 | LINE #92 | 946A, PSDTX1025M1 |
| PRO-LINE93 | LINE #93 | 946A, PSDTX1025M1 |
| PRO-LINE97 | SURFACE COATING OPERATIONS | 106.433/09/04/2000 |
| RNGBRNR | LINE 91 RING BURNER | 946A, PSDTX1025M1 |
| STEAMCLNR | STEAM CLEANER | 106.183/09/04/2000 |
| SULHLDTNK | SULFATE HOLDING TANK | 106.472/09/04/2000 |
| TANK10 | 751 BULK TANK - P&M | 106.472/09/04/2000 |
| TANK11 | P&M HYDROFLOAT | 106.472/09/04/2000 |
| TANK12 | ACH - P&M | 106.472/09/04/2000 |
| TANK13 | 751 DAY TANK | 106.472/09/04/2000 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization |
|---------------------------|------------------------------------|--|
| TANK18 | SILANE MIX TANK | 106.472/09/04/2000 |
| TANK1 | 9985 OFFLINE 97 FOAM - NO. 5 | 106.472/09/04/2000 |
| TANK19 | PREREACTION 92 A1 (SOUTHERN TANKS) | 106.472/09/04/2000 |
| TANK20 | PREREACTION 92 A2 (SOUTHERN TANKS) | 106.472/09/04/2000 |
| TANK21 | PREREACTION 93 B1 (NORTHERN TANKS) | 106.472/09/04/2000 |
| TANK22 | PREREACTION 93 B2 (NORTHERN TANKS) | 106.472/09/04/2000 |
| TANK23 | DYE MIX TANK | 106.472/09/04/2000 |
| TANK28 | RESIN 444 CHEMBOND (COLD ROOM) | 106.472/09/04/2000 |
| TANK2 | 9985 UNIT 90 FOAM - NO. 4 | 106.472/09/04/2000 |
| TANK29 | RESIN 444 CHEMBOND (COLD ROOM) | 106.472/09/04/2000 |
| TANK30 | RESIN 444 CHEMBOND (COLD ROOM) | 106.472/09/04/2000 |
| TANK31 | RESIN 444 CHEMBOND (COLD ROOM) | 106.472/09/04/2000 |
| TANK32 | AMMONIA (P&M DAY TANK) | 106.472/09/04/2000 |
| TANK33 | SODIUM HYPOCHLORITE | 106.472/09/04/2000 |
| TANK34 | 300 STORAGE - SIZING ROOM | 106.261/11/01/2003, 106.262/11/01/2003 |
| TANK35 | 300 MIX - SIZING TANK | 106.261/11/01/2003, 106.262/11/01/2003 |
| TANK36 | MAIN MIX TANK - SIZING ROOM | 106.261/11/01/2003, 106.262/11/01/2003 |
| TANK37 | STORAGE #1 - SIZING ROOM | 106.261/11/01/2003, 106.262/11/01/2003 |
| TANK38 | STORAGE ROOM #2 - SIZING ROOM | 106.261/11/01/2003, 106.262/11/01/2003 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization |
|---------------------------|--|---------------------------------|
| TANK3 | 9985 UNIT 90 FOAM - NO. 3 | 106.472/09/04/2000 |
| TANK39 | SODIUM HYDROXIDE (CAUSTIC) | 106.472/09/04/2000 |
| TANK40 | AMMONIA BULK STORAGE TANK | 106.476/09/04/2000 |
| TANK41 | AMMONIA (HERM DAY TANK) | 106.476/09/04/2000 |
| TANK42 | HERM FILTERED PROCESS WATER (WEST TANK) | 106.472/09/04/2000 |
| TANK43 | HERM FILTERED PROCESS WATER (EAST TANK) | 106.472/09/04/2000 |
| TANK45 | HERM FILTERED PROCESS WATER STORAGE (ROUND TANK) | 106.472/09/04/2000 |
| TANK46 | HERM HYDROFLOAT | 106.472/09/04/2000 |
| TANK47 | RESIN GP 2819 - TANK A1 | 106.472/09/04/2000 |
| TANK48 | RESIN GP 2819 - TANK A2 | 106.472/09/04/2000 |
| TANK4 | 9988 UNIT 90 FOAM - NO. 2 | 106.472/09/04/2000 |
| TANK49 | RESIN GP 2819 - TANK B1 | 106.472/09/04/2000 |
| TANK50 | RESIN GP 2819 - TANK B2 | 106.472/09/04/2000 |
| TANK51 | DYE SUPPLY TANK (WEST TANK) | 106.472/09/04/2000 |
| TANK52 | DYE MIX TANK (EAST TANK) | 106.472/09/04/2000 |
| TANK53 | DEDUSTING OIL (HERM DAY TANK) | 106.472/09/04/2000 |
| TANK54 | UREA (WEST TANK) | 106.472/09/04/2000 |
| TANK55 | UREA (EAST TANK) | 106.472/09/04/2000 |
| TANK57 | PREREACTION MIX (WEST TANK) | 106.472/09/04/2000 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization |
|---------------------------|--|---------------------------------|
| TANK58 | PREREACTION MIX (EAST TANK) | 106.472/09/04/2000 |
| TANK5 | 9988 UNIT 90 FOAM - NO. 1 | 106.472/09/04/2000 |
| TANK59 | AMMONIUM SULFATE MIX TANK (WEST TANK) | 106.472/09/04/2000 |
| TANK60 | AMMONIUM SULFATE MIX TANK (EAST TANK) | 106.472/09/04/2000 |
| TANK61 | MCLUBE PRESSURIZED DAY TANK | 106.476/09/04/2000 |
| TANK62 | PROPANE (FORKLIFT TANK) | 106.476/09/04/2000 |
| TANK63 | PROPANE - (EAST) | 106.476/09/04/2000 |
| TANK64 | PROPANE - (CENTER) | 106.476/09/04/2000 |
| TANK65 | PROPANE - (WEST) | 106.476/09/04/2000 |
| TANK66 | CL-206 DAY TANK | 106.472/09/04/2000 |
| TANK67 | PR-2150 DAY TANK | 106.472/09/04/2000 |
| TANK68 | EPG PROCESS WATER TANK FOR DISPOSAL (BULK) | 106.472/09/04/2000 |
| TANK6 | 9985 DAY TANKS LINE 90 | 106.472/09/04/2000 |
| TANK69 | EPG PROCESS WATER TANK FOR DISPOSAL (SMALL) | 106.472/09/04/2000 |
| TANK70 | RO WATER TANK (BULK) | 106.472/09/04/2000 |
| TANK71 | RO REJECT WATER, FILTER BACK WASH TANK (SMALL) | 106.472/09/04/2000 |
| TANK7 | 9988 DAY TANKS LINE 90 | 106.472/09/04/2000 |
| TANK8 | 9985 DAY TANKS LINE 97 | 106.472/09/04/2000 |
| TANK9 | LAWX 235D BULK GLUE - LINE 91 | 106.472/09/04/2000 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization |
|--------------------------------------|---------------------------------------|--|
| TK-DOIL | DEDUSTING OIL TANK | 106.478/09/04/2000 |
| TK-LFC1 | LATEX FOAM COATING TANK | 051/09/12/1989 |
| TK-LFC2 | LATEX FOAM COATING TANK | 051/09/12/1989 |
| UNLEAD1 | UNLEADED GASOLINE TANK | 106.473/09/04/2000 |
| UREMIXTNK | UREA MIX TANK | 106.472/09/04/2000 |
| WWT | WASTEWATER TREATMENT PROCESS | 106.532/09/04/2000 |

Appendix A

| | |
|--------------------------|-----------|
| Acronym List..... | 52 |
|--------------------------|-----------|

Acronym List

The following abbreviations or acronyms may be used in this permit:

| | |
|------------------------|---|
| ACFM | actual cubic feet per minute |
| AMOC | alternate means of control |
| ARP | Acid Rain Program |
| ASTM | American Society of Testing and Materials |
| B/PA | Beaumont/Port Arthur (nonattainment area) |
| CAM | Compliance Assurance Monitoring |
| CD | control device |
| COMS | continuous opacity monitoring system |
| CVS | closed-vent system |
| D/FW | Dallas/Fort Worth (nonattainment area) |
| DR | Designated Representative |
| EIP | El Paso (nonattainment area) |
| EP | emission point |
| EPA | U.S. Environmental Protection Agency |
| EU | emission unit |
| FCAA Amendments | Federal Clean Air Act Amendments |
| FOP | federal operating permit |
| GF | grandfathered |
| gr/100 scf | grains per 100 standard cubic feet |
| HAP | hazardous air pollutant |
| H/G/B | Houston/Galveston/Brazoria (nonattainment area) |
| H ₂ S | hydrogen sulfide |
| ID No. | identification number |
| lb/hr | pound(s) per hour |
| MMBtu/hr | Million British thermal units per hour |
| MRRT | monitoring, recordkeeping, reporting, and testing |
| NA | nonattainment |
| N/A | not applicable |
| NADB | National Allowance Data Base |
| NO | nitrogen oxides |
| NSPS | New Source Performance Standard (40 CFR Part 60) |
| NSR | New Source Review |
| ORIS | Office of Regulatory Information Systems |
| Pb | lead |
| PBR | Permit By Rule |
| PM | particulate matter |
| ppmv | parts per million by volume |
| PSD | prevention of significant deterioration |
| RO | Responsible Official |
| SO ₂ | sulfur dioxide |
| TCEQ | Texas Commission on Environmental Quality |
| TSP | total suspended particulate |
| TVP | true vapor pressure |
| U.S.C. | United States Code |
| VOC | volatile organic compound |

Appendix B

| | |
|--------------------------------------|-----------|
| Major NSR Summary Table | 54 |
|--------------------------------------|-----------|

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|---|--------------------------|-----------------------------|--------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | | | |
| 1/2/3/4/5 | Lines 92 and 93 Collectors and High-Energy Air Filtration (HEAF) - Stacks | PM | 33.50 | 146.73 | 28, 29, 32, 37, 42 | 44, 51 | 44 |
| | | PM ₁₀ | 33.50 | 146.73 | 28, 29, 32, 37, 42 | 44, 51 | 44 |
| | | PM _{2.5} | 33.50 | 146.73 | 28, 29, 32, 37, 42 | 44, 51 | 44 |
| | | Total VOC | 21.61 | 94.64 | 29, 32 | 44, 51 | 44 |
| | | NO _x | 11.76 | 51.51 | 28, 29, 32, 42 | 44, 51 | 44 |
| | | SO ₂ | 6.53 | 28.65 | 28, 42 | 51 | - |
| | | CO | 57.46 | 251.67 | - | 51 | - |
| | | NH ₃ | 36.00 | 157.68 | 29 | 44, 51 | 44 |
| | | Formaldehyde | 8.50 | 37.23 | 29 | 44, 51 | 44 |
| | | Phenol | 4.12 | 18.05 | 29 | 44, 51 | 44 |
| | | Methyl Alcohol | 3.69 | 16.15 | - | 51 | - |
| 15A | Glass Furnaces (1901 and 1902) ESP - Stack | PM | 7.46 | 32.65 | 4, 5, 26, 28, 29, 32, 34, 35, 42 | 4, 5, 34, 35, 44, 51 | 4, 5, 39, 44 |
| | | PM (6) | 8.00 | 0.16 | - | - | - |
| | | PM ₁₀ | 7.46 | 32.65 | 4, 5, 26, 28, 29, 32, 34, 35, 42 | 4, 5, 34, 35, 44, 51 | 4, 5, 39, 44 |
| | | PM ₁₀ (6) | 8.00 | 0.16 | - | - | - |
| | | PM _{2.5} | 7.46 | 32.65 | 4, 5, 26, 28, 29, 32, 34, 35, 42 | 4, 5, 34, 35, 44, 51 | 4, 5, 39, 44 |
| | | PM _{2.5} (6) | 8.00 | 0.16 | - | - | - |
| | | VOC | 0.12 | 0.53 | 29 | 44, 51 | 44 |
| | | NO _x | 18.32 | 80.25 | 26, 28, 29, 42 | 44, 51 | 44 |
| | | SO ₂ | 4.20 | 18.36 | 26, 28, 42 | 51 | - |
| | | SO ₂ (6) | 8.40 | 0.17 | - | 51 | - |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|-----------------------------|--------------------------|-----------------------------|---------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | Spec. Cond. | Spec. Cond. | Spec. Cond. |
| | | CO | 0.55 | 2.40 | - | 51 | - |
| | | HF | 0.18 | 0.78 | 42 | 51 | - |
| | | Pb | 0.00035 | 0.00153 | - | 51 | - |
| FHFUG | 1901 Forehearth (5) | PM | 0.09 | 0.40 | - | 51 | - |
| | | PM ₁₀ | 0.09 | 0.40 | - | 51 | - |
| | | PM _{2.5} | 0.09 | 0.40 | - | 51 | - |
| | | VOC | 0.05 | 0.24 | - | 51 | - |
| | | NO _x | 0.98 | 4.28 | - | 51 | - |
| | | SO ₂ | 0.01 | 0.03 | - | 51 | - |
| | | CO | 0.82 | 3.59 | - | 51 | - |
| | | HF | 0.05 | 0.21 | - | 51 | - |
| FHFUG2 | 1902 Furnace Forehearth (5) | PM | 0.25 | 1.10 | - | 51 | - |
| | | PM ₁₀ | 0.25 | 1.10 | - | 51 | - |
| | | PM _{2.5} | 0.25 | 1.10 | - | 51 | - |
| | | VOC | 0.04 | 0.18 | - | 51 | - |
| | | NO _x | 1.46 | 6.40 | - | 51 | - |
| | | SO ₂ | <0.01 | 0.05 | - | 51 | - |
| | | CO | 1.10 | 4.80 | - | 51 | - |
| FMFUG | 1901 Forming Area (5) | PM | 1.67 | 7.30 | - | 51 | - |
| | | PM ₁₀ | 1.67 | 7.30 | - | 51 | - |
| | | PM _{2.5} | 1.67 | 7.30 | - | 51 | - |
| | | VOC | 0.75 | 3.29 | - | 51 | - |
| | | NH ₃ | 0.13 | 0.58 | - | 51 | - |
| BFUG | 1901 Batch Plant (5) | PM | <0.01 | 0.02 | 31 | 31, 51 | - |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|---|--------------------------|-----------------------------|--------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | Spec. Cond. | Spec. Cond. | Spec. Cond. |
| | | PM ₁₀ | <0.01 | 0.02 | 31 | 31, 51 | - |
| | | PM _{2.5} | <0.01 | 0.02 | 31 | 31, 51 | - |
| FUGRM | 1901 Batch Drop Railcar Unloading (5) | PM | <0.01 | <0.01 | - | 51 | - |
| | | PM ₁₀ | <0.01 | <0.01 | - | 51 | - |
| | | PM _{2.5} | <0.01 | <0.01 | - | 51 | - |
| MXBIN1 | 1901 E-Glass Mixing Bin (North) (5) | PM | <0.01 | <0.01 | 31 | 31, 51 | - |
| | | PM ₁₀ | <0.01 | <0.01 | 31 | 31, 51 | - |
| | | PM _{2.5} | <0.01 | <0.01 | 31 | 31, 51 | - |
| MXBIN2 | 1901 E-Glass Mixing Bin (South) (5) | PM | <0.01 | <0.01 | 31 | 31, 51 | - |
| | | PM ₁₀ | <0.01 | <0.01 | 31 | 31, 51 | - |
| | | PM _{2.5} | <0.01 | <0.01 | 31 | 31, 51 | - |
| 16 | Line 91 Collection Wet Scrubber No. 1 - Stack | PM | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM ₁₀ | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM _{2.5} | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | Total VOC | 3.84 | 12.38 | 29 | 44, 51 | 44 |
| | | NO _x | 1.29 | 5.63 | 28, 29 | 44, 51 | 44 |
| | | SO ₂ | 0.01 | 0.04 | 28 | 51 | - |
| | | CO | 9.15 | 40.17 | - | 51 | - |
| | | NH ₃ | 4.20 | 18.37 | 29 | 44, 51 | 44 |
| | | Formaldehyde | 0.68 | 2.97 | 5, 29 | 5, 44, 51 | 5, 44 |
| | | Phenol | 0.75 | 3.29 | 29 | 44, 51 | 44 |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|---|--------------------------|-----------------------------|--------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | | | |
| 17 | Line 91 Collection Wet Scrubber No. 2 - Stack | PM | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM ₁₀ | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM _{2.5} | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | Total VOC | 3.84 | 12.38 | 29 | 44, 51 | 44 |
| | | NO _x | 1.29 | 5.63 | 28, 29 | 44, 51 | 44 |
| | | SO ₂ | 0.01 | 0.04 | 28 | 51 | - |
| | | CO | 9.15 | 40.17 | - | 51 | - |
| | | NH ₃ | 4.20 | 18.37 | 29 | 44, 51 | 44 |
| | | Formaldehyde | 0.68 | 2.97 | 5, 29 | 5, 44, 51 | 5, 44 |
| | | Phenol | 0.75 | 3.29 | 29 | 44, 51 | 44 |
| 18 | Line 91 Collection Wet Scrubber No. 3 - Stack | PM | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM ₁₀ | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM _{2.5} | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | Total VOC | 3.84 | 12.38 | 29 | 44, 51 | 44 |
| | | NO _x | 1.29 | 5.63 | 28, 29 | 44, 51 | 44 |
| | | SO ₂ | 0.01 | 0.04 | 28 | 51 | - |
| | | CO | 9.15 | 40.17 | - | 51 | - |
| | | NH ₃ | 4.20 | 18.37 | 29 | 44, 51 | 44 |
| | | Formaldehyde | 0.68 | 2.97 | 5, 29 | 5, 44, 51 | 5, 44 |
| | | Phenol | 0.75 | 3.29 | 29 | 44, 51 | 44 |
| 19 | Line 91 Collection Wet Scrubber No. 4 - Stack | PM | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM ₁₀ | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|---|--------------------------|-----------------------------|--------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | Spec. Cond. | Spec. Cond. | Spec. Cond. |
| | | PM _{2.5} | 4.50 | 19.08 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | Total VOC | 3.84 | 12.38 | 29 | 44, 51 | 44 |
| | | NO _x | 1.29 | 5.63 | 28, 29 | 44, 51 | 44 |
| | | SO ₂ | 0.01 | 0.04 | 28 | 51 | - |
| | | CO | 9.15 | 40.17 | - | 51 | - |
| | | NH ₃ | 4.20 | 18.37 | 29 | 44, 51 | 44 |
| | | Formaldehyde | 0.68 | 2.97 | 5, 29 | 5, 44, 51 | 5, 44 |
| | | Phenol | 0.75 | 3.29 | 29 | 44, 51 | 44 |
| 20 | Line 91 Curing Oven Wet Scrubber (with Ring-Burner) - Stack | PM | 4.51 | 18.96 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM ₁₀ | 4.51 | 18.96 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | PM _{2.5} | 4.51 | 18.96 | 4, 28, 29, 32, 37 | 4, 39, 44, 51 | 4, 44 |
| | | Total VOC | 7.82 | 34.24 | 29 | 44, 51 | 44 |
| | | NO _x | 4.38 | 19.18 | 28, 29 | 44, 51 | 44 |
| | | SO ₂ | 0.01 | 0.04 | 28 | 51 | - |
| | | CO | 22.28 | 97.58 | - | 51 | - |
| | | NH ₃ | 7.02 | 30.75 | 29 | 44, 51 | 44 |
| | | Formaldehyde | 1.60 | 7.00 | 5, 29 | 5, 44, 51 | 5, 44 |
| | | Phenol | 1.00 | 4.38 | 29 | 44, 51 | 44 |
| 21 | Line 91 Melters Baghouse No. 1 - Stack | PM | 0.99 | 4.34 | 4, 5, 28, 29, 32, 33, 37, 42 | 4, 5, 33, 44, 51 | 4, 5, 39, 44 |
| | | PM ₁₀ | 0.99 | 4.34 | 4, 5, 28, 29, 32, 33, 37, 42 | 4, 5, 33, 44, 51 | 4, 5, 39, 44 |
| | | PM _{2.5} | 0.99 | 4.34 | 4, 5, 28, 29, 32, 33, 37, 42 | 4, 5, 33, 44, 51 | 4, 5, 39, 44 |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|---|--------------------------|-----------------------------|----------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | Spec. Cond. | Spec. Cond. | Spec. Cond. |
| | | Total VOC | 3.72 | 16.27 | 27, 29 | 44, 51 | 44 |
| | | NO _x | 0.11 | 0.50 | 28, 29, 42 | 44, 51 | 44 |
| | | SO ₂ | 1.12 | 4.92 | 27, 28, 42 | 51 | - |
| | | CO | 5.27 | 23.08 | 27 | 51 | - |
| | | Boron Oxide | 0.40 | 1.75 | - | 51 | - |
| | | Pb | 0.000166 | 0.000736 | - | 51 | - |
| | | As | 0.000223 | 0.000977 | - | 51 | - |
| | | Cd | 0.000088 | 0.000389 | - | 51 | - |
| | | Cr | 0.00425 | 0.0186 | - | 51 | - |
| 22 | Line 91 Cold End/Horizontal Band Saw Baghouse No. 2 - Stack | PM | 0.06 | 0.26 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.06 | 0.26 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.06 | 0.26 | 28, 32 | 51 | - |
| 23 | Line 91 Batch Loading Shed Baghouse No. 3 - Stack | PM | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.13 | 28, 32 | 51 | - |
| 24 | Line 91 Unload Shed Baghouse No. 4 - Stack | PM | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.13 | 28, 32 | 51 | - |
| 25 | Line 91 Melter Dust Refeed Baghouse No. 5 - Stack | PM | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.13 | 28, 32 | 51 | - |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|--|--------------------------|-----------------------------|--------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | | | |
| 26 | Line 91 Mixed Batch Day Bin Baghouse No. 6 - Stack | PM | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.13 | 28, 32 | 51 | - |
| 27 | Line 91 Mixed Batch Day Bin Baghouse No. 7 - Stack | PM | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.13 | 28, 32 | 51 | - |
| 28 | Line 91 Mixed Batch Day Bin Baghouse No. 8 - Stack | PM | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.13 | 28, 32 | 51 | - |
| 29 | Line 91 Mixed Batch Day Bin Baghouse No. 9 - Stack | PM | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.13 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.13 | 28, 32 | 51 | - |
| 35 | South Trim Waste Re-Feed Baghouse | PM | 0.03 | 0.12 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.12 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.12 | 28, 32 | 51 | - |
| 36 | North Trim Waste Re-Feed Baghouse | PM | 0.03 | 0.12 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.03 | 0.12 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.03 | 0.12 | 28, 32 | 51 | - |
| 37 | Off-Line Trim Waste Re-Feed Baghouse | PM | 0.08 | 0.36 | 28, 32 | 51 | - |
| | | PM ₁₀ | 0.08 | 0.36 | 28, 32 | 51 | - |
| | | PM _{2.5} | 0.08 | 0.36 | 28, 32 | 51 | - |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|-------------------------------|--------------------------|-----------------------------|--------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | | | |
| Tanks 34, 35, 36, 37, and 38 | E-Glass Mixing Tanks | VOC | 0.31 | 1.54 | - | 51 | - |
| RA901 | 1901 E-Glass Reclaim Area | PM | 0.62 | 2.72 | - | 51 | - |
| | | PM ₁₀ | 0.62 | 2.72 | - | 51 | - |
| | | PM _{2.5} | 0.62 | 2.72 | - | 51 | - |
| | | VOC | 0.45 | 1.97 | - | 51 | - |
| | | NO _x | 0.10 | 0.44 | - | 51 | - |
| | | SO ₂ | <0.01 | 0.01 | - | 51 | - |
| | | CO | 0.08 | 0.35 | - | 51 | - |
| | | NH ₃ | 0.10 | 0.44 | - | 51 | - |
| DRYTUNFUG | Gypsum Drying Tunnel (5) | PM | 0.02 | 0.088 | - | 51 | - |
| | | PM ₁₀ | 0.02 | 0.088 | - | 51 | - |
| | | PM _{2.5} | 0.02 | 0.088 | - | 51 | - |
| | | Total VOC | 0.14 | 0.61 | - | 51 | - |
| | | NO _x | 0.15 | 0.66 | - | 51 | - |
| | | SO ₂ | <0.01 | <0.01 | - | 51 | - |
| | | CO | 0.13 | 0.55 | - | 51 | - |
| | | HF | 0.01 | 0.04 | - | 51 | - |
| OGMFUG | Off-Line Grooving Machine (5) | PM | 0.14 | 0.61 | - | 51 | - |
| | | PM ₁₀ | 0.14 | 0.61 | - | 51 | - |
| | | PM _{2.5} | 0.14 | 0.61 | - | 51 | - |
| MSSFUG | MSS Fugitives (5) | PM | <0.40 | <1.00 | - | 51 | - |
| | | PM ₁₀ | <0.40 | <1.00 | - | 51 | - |

Major NSR Summary Table

| Permit Number: NSR 946A/PSDTX1025M1 | | | Issuance Date: June 8, 2015 | | | | |
|-------------------------------------|-----------------|--------------------------|-----------------------------|--------|-------------------------------------|----------------------------|------------------------|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY(4) | Spec. Cond. | Spec. Cond. | Spec. Cond. |
| | | PM _{2.5} | <0.40 | <1.00 | - | 51 | - |
| | | VOC | <0.40 | <1.00 | - | 51 | - |
| | | NO _x | <0.40 | <1.00 | - | 51 | - |
| | | SO ₂ | <0.40 | <1.00 | - | 51 | - |
| | | CO | <0.40 | <1.00 | - | 51 | - |
| | | NH ₃ | <0.40 | <1.00 | - | 51 | - |
| | | Formaldehyde | <0.40 | <1.00 | - | 51 | - |
| | | Phenol | <0.40 | <1.00 | - | 51 | - |
| | | | | | | | |

Footnotes:

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC
 - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 - NO_x
 - total oxides of nitrogen
 - SO₂
 - sulfur dioxide
 - PM₂
 - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 - PM₁₀
 - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 - PM_{2.5}
 - particulate matter equal to or less than 2.5 microns in diameter
 - CO
 - carbon monoxide
 - NH₃
 - ammonia
 - HF
 - hydrogen fluoride
 - Pb
 - lead
 - As
 - arsenic
 - Cd
 - cadmium
 - Cr
 - chromium
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Emission rates apply during inspection, cleaning, and maintenance of Glass Furnaces 1901 and 1902 dry scrubber.
- (7) Planned startup and shutdown emissions are included. Maintenance activities, except as specified in Special Condition No. 21, are not authorized by this permit and will need separate authorization, unless the activity can meet the conditions of 30 TAC § 116.119.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT



A Permit Is Hereby Issued To
Johns Manville
Authorizing the Continued Operation of
Fiberglass Manufacturing Plant
Located at **Cleburne, Johnson County, Texas**
Latitude 32° 23' 15" Longitude -97° 23' 38"

Permits: 946A and PSDTX1025M1

Issuance Date : June 8, 2015

Expiration Date: June 08, 2025

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code 116.116 (30 TAC 116.116)]
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC 116.120(a), (b) and (c)]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC 116.115(b)(2)(B)(iii)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)]
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.

Special Conditions

Permit Numbers 946A and PSDTX1025M1

Emission Limitations

1. This permit authorizes those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and those sources are limited to the emission rates and other conditions specified in the table. In addition, this permit authorizes all emissions from planned startup and shutdown activities associated with facilities or groups of facilities that are authorized by this permit.

Fuel Specifications

2. Fuel for the glass furnaces and all ovens at this facility shall be liquid petroleum gas (LPG) or pipeline-quality natural gas. Use of any other fuel will require prior approval of the Executive Director of the Texas Commission on Environmental Quality (TCEQ).
3. Upon request by the Executive Director of the TCEQ or the TCEQ Regional Director or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuels used in these facilities or shall allow air pollution control program representatives to obtain a sample for analysis.

Federal Applicability

4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) Regulations on Standards of Performance for New Stationary Sources in Title 40 Code of Federal Regulations (40 CFR) Part 60, specifically the following:
 - A. Subpart A - General Provisions;
 - B. Subpart CC - Glass Manufacturing Plants; and
 - C. Subpart PPP - Wool Fiberglass Insulation Manufacturing Plants.
5. These facilities shall comply with all applicable requirements of the EPA Regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63, specifically the following:
 - A. Subpart A - General Provisions;
 - B. Subpart NNN - Wool Fiberglass Manufacturing; and
 - C. Subpart JJJJ - Paper and Other Web Coating.

Opacity/Visible Emission Limitations

6. There shall be no visible fugitive emissions leaving the plant property from any building, the mixing bin, or raw material batching plant for more than 30 cumulative seconds in any six-minute period.

7. Opacity of particulate matter emissions from the following sources shall not exceed the associated opacity restriction listed below, averaged over a six-minute period.

Table 1: Opacity Restrictions

| Emission Point Nos. (EPNs) | Source | Opacity Restriction (%) |
|---------------------------------------|---|------------------------------------|
| 21, 35-37 | Line 91 Melters Baghouse No. 1 Stack, Trim Waste Baghouse Stacks | 5 |
| 3, 16-20, 22-29 | Lines 92 and 93 HEAF Stack, Line 91 scrubber and baghouse stacks | 10 |
| 1, 2, 4, 5, 15A | Line 92 and 93 Collector Stacks, Furnaces 1901 and 1902 electrostatic precipitator (ESP) Stack | 20 |

Operational Limitations, Work Practices, and Plant Design

8. The maximum authorized glass pull rates on an hourly and annual basis can be found in the confidential file for Line 91 and Furnace 1901 amended application submitted March 2010.
9. The fluids management program and low emission binders, designed for process optimization and abatement for Lines 92 and 93, are implemented and shall be properly maintained.
10. Wet venturi scrubbers and fabric filter baghouses, properly installed and in good working order, shall control particulate matter (PM) emissions from the Line 91 fiberglass and resin processes and Curing Oven Stacks (EPNs 16 through 20, and 22 through 29).
11. A fabric filter baghouse, properly installed and in good working order, shall control PM emissions from the Line 91 Melters (EPN 21). Stack height shall be 60 feet.
12. Fabric filter baghouse designed to meet an outlet grain loading of not more than 0.002 grains per dry standard cubic foot of exhaust, properly installed and in good working order, shall control particulate matter emissions from the Gypsum Drying Tunnel when this equipment is in operation.
13. Furnaces 1901 and 1902 shall use oxygen with natural gas as a combustion control process. An ESP, properly installed and in good working order, shall control PM emissions from the Glass Furnaces 1901 and 1902 (EPN 15A). Stack height shall be 90 feet. Furnace 1901 shall exhaust through a dry scrubber prior to venting into the ESP. The dry scrubber, using an alkali and water mix, shall be used to control sulfur dioxide (SO₂) and acid gases.

14. A High-Energy Air Filtration (HEAF) system, properly installed and in good working order, shall control PM emissions from the ovens on Lines 92 and 93 (EPN 3).
15. Except for those trucks that pneumatically transfer materials using an enclosed system, all other raw materials unloaded by truck or railcar shall be conducted within an enclosed building which is vented to a fabric filter baghouse.
16. The fiber strand choppers shall be completely enclosed and shall not have any fugitive emissions.
17. The company shall be limited to the maximum cullet usage rate represented in the confidential file of the March 2009 amendment request.
18. The following activities are authorized by separate Permit by Rule (PBR) or Standard Permit:

Table 2: PBR/Standard Permit References

| Activity | PBR/Standard Permit |
|--|--|
| Formaldehyde-free based binder in the binding process on Lines 91, 92, and 93 (trial basis only) | 106.261 Registration No. 107085 |
| Formaldehyde-free based binder in production of rolled products on Line 91 | 6001 Non-rule Registration No. 130233 |

Chemical Flexibility

19. This permit allows the use of those chemicals as listed in the permit file for the size application process on Lines 1901 and 1902, as well as the binding process on Lines 91, 92, and 93. Use of other chemicals or compounds will be allowed provided the following conditions are met:
 - A. The new or replacement compound or product shall serve the same basic function and the emissions shall be emitted from the same location as the replaced compound or product emissions.
 - B. The Effects Screening Level (ESL) for any new or replacement compound or product shall not be less than the ESL value for any current compound or product and the emission rate (ER) for the replacement compound or product shall not be greater than the ER for the current compound or product, except if the following condition is met:

where: there is a direct substitution of one chemical for another

$$\frac{ER2}{ESL2} \leq \frac{ER1}{ESL1}$$

OR

where: the replacement has different constituents

$$\frac{ER2a}{ESL2a} + \frac{ER2b}{ESL2b} + \dots + \frac{ER2n}{ESL2n} \leq \frac{ER1a}{ESL1a} + \frac{ER1b}{ESL1b} + \dots + \frac{ER1n}{ESL1n}$$

where:

ER1 is the ER of an authorized compound or product (chemical).

ER2 is the ER of the replacement compound or product (chemical).

ESL1 is the ESL for an authorized compound or product.

ESL2 is the ESL for the replacement compound or product.

The ESL shall be taken from the permit application or the current TCEQ ESL list. The use of new chemicals not listed in the current TCEQ ESL list will require that the TCEQ Toxicology Division develop an ESL for each chemical to be applied in the ratio test set forth above.

The ESL and ER values to be used in the formula above shall be taken from the values identified and used as the basis of analysis submitted as part of the permit application.

The ESL shall be taken from the permit application or the current TCEQ ESL list. The use of any chemical not represented in the permit application shall be limited to chemicals contained in the TCEQ ESL list. The use of new chemicals not listed in the ESL list will require an amendment to this permit.

For Lines 1901 and 1902, if the ESL is less than 90 µg/m³ for volatile organic compounds (VOC) emissions, this condition does not apply. An amendment to this permit will be required before any chemicals that are more toxic than this specified limit are introduced on Lines 1901 and 1902.

Records as required by the special conditions must be maintained on-site by the permit holder to demonstrate compliance with this condition and Special Condition No. 1 above.

- C. This condition allows for changes in sizing and binder chemical formulations and does not allow for any increase in total emissions from any emission point.
20. Chemical trade names included in the permit application shall refer to generic chemicals and the purchase of these chemicals from different vendors or manufacturers shall not constitute a substitution in materials.

Maintenance, Startup, and Shutdown (MSS) Activities

21. The following MSS activities, which are planned and predictable and ensure the continuous normal operation of a facility or control device or return a facility or control device to normal operating conditions, are authorized:

- A. Routine maintenance on Lines 90 and 97 including maintenance on the foam application system, curing oven, and printing system.
 - B. Routine maintenance on Line 91 including filter replacement and maintenance on the binder application system, curing oven, wet abatement system, refeed system, dry abatement system, process water systems, and batch systems.
 - C. Routine maintenance on Lines 92 and 93 including maintenance on the binder application system, curing oven, marble distribution system, process water system, and HEAF system.
 - D. Routine maintenance on Glass Furnace 1901 including maintenance on the glass melting furnace and forehearth systems, gypsum dryer, abatement systems, refeed system, sizing systems, and batch systems. Inspection, cleaning, and maintenance of the dry scrubber shall be limited to 40 hours per year.
 - E. Routine maintenance on Glass Furnace 1902 including maintenance on the ESP.
22. All maintenance activities shall be conducted to ensure compliance with the maximum allowable emission rates table (MAERT).
23. Entrained dust shall be allowed to settle prior to opening the control devices.
24. Upset conditions and the resulting emissions are not authorized by this permit.
25. No maintenance activities, other than those specified in Special Condition No. 21, are authorized by this permit.

Initial Determination of Compliance

26. Within 60 days after achieving the maximum glass pull rate at which the 1901 furnace will be operated, but not later than 180 days after approval of the March 2010 amendment application, the holder of this permit shall perform initial stack sampling analysis for (but not limited to) PM, particulate matter 10 microns and 2.5 microns and smaller in diameter (PM₁₀ and PM_{2.5}, respectively), nitrogen oxides (NO_x), SO₂, and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere. Performance testing for PM is required to demonstrate compliance with NSPS, Subparts A and CC. All testing shall be conducted in accordance with the TCEQ Sampling Procedures Manual or in accordance with applicable U.S. EPA CFR procedures. Any deviations from those procedures must be approved by the TCEQ Executive Director prior to sampling. Any request for an extension shall be approved by the TCEQ Regional Office. The request shall be in writing and filed three months prior to the testing date.
27. Within 60 days after increasing the cullet usage rates associated with the March 2009 amendment application, the holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of SO₂, carbon monoxide (CO), and VOC being emitted into the atmosphere from the Line 91 Melters Baghouse No. 1 - Stack (EPN 21).

The holder of this permit shall conduct an approved test for SO₂, CO, and VOC on the Line 91 Melters Baghouse No. 1 - Stack (EPN 21) whenever the cullet usage rate increases equal or exceed 10 percent of the usage rate during the last stack test.

Demonstration of Continuous Compliance

28. Upon being informed by the TCEQ Executive Director that the staff has documented visible emissions from these facilities exceeding those specified opacities in this permit, when adjusted for uncombined water vapor, averaged over six consecutive minutes, the holder of this permit may be required to conduct stack sampling analyses or other tests to prove satisfactory equipment performance and demonstrate compliance. Sampling must be conducted in accordance with appropriate procedures of the TCEQ Sampling Procedures Manual or in accordance with applicable U.S. EPA CFR procedures. Any deviations from those procedures must be approved by the TCEQ Executive Director prior to sampling.
29. The holder of this permit shall perform stack sampling analysis for (but not limited to) PM, NO_x, VOCs, ammonia, phenol, and formaldehyde and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere. If a unit is taken out of service on or before the identified year for testing to be completed, the holder of this permit will perform testing as specified in this condition within 60 days of achieving the maximum glass pull rate at which the unit will be operated but not later than 180 days after startup. Stack testing for all operating lines, including EPNs 3 and 15A, shall be performed on a rotating basis in accordance with the following table:

Table 3: Stack Testing for Operating Lines and EPNs

| Lines and/or EPNs to be tested | Year Testing To Be Completed | | | | | |
|---------------------------------------|-------------------------------------|-------------|-------------|-------------|-------------|-------------|
| | 2012 | 2014 | 2016 | 2017 | 2019 | 2021 |
| 91 | | Yes | | | Yes | |
| 92 and 93 and EPN 3 | Yes | | | Yes | | |
| EPN 15A | | | Yes | | | Yes |

All testing shall be conducted in accordance with Chapter 14 of the TCEQ Sampling Procedures Manual. Any request for an extension shall be approved by the TCEQ Regional Office, and a written request shall be filed three months prior to the testing date.

30. If a condition of nuisance is confirmed by the TCEQ, the holder of this permit may be required to perform stack sampling for PM, total VOC, or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere.
31. The holder of this permit shall conduct a quarterly visible emissions determination to demonstrate compliance with the visible emissions limitation specified in this permit for the plant property. This visible emissions determination shall be performed: 1) during normal

plant operations, 2) for a minimum of six minutes, 3) approximately perpendicular to plume direction, 4) with the sun behind the observer (to the extent practicable), 5) at least 15 feet, but not more than 0.25 mile, from the plume, and 6) in accordance with EPA 40 CFR Part 60, Appendix A, Test Method 22, except where stated otherwise in this condition. If visible emissions leaving the property exceed 30 cumulative seconds in any six-minute period, the owner or operator shall take immediate action (as appropriate) to eliminate the excessive visible emissions. The corrective action shall be documented within 24 business hours of completion.

32. The holder of this permit shall conduct a quarterly visible emissions determination to demonstrate compliance with the opacity limitations specified in Special Condition No. 7 "Table 1: Opacity Restrictions". This visible emissions determination shall be performed: 1) during normal plant operations, 2) for a minimum of six minutes, 3) approximately perpendicular to plume direction, 4) with the sun behind the observer (to the extent practicable), and 5) at least two stack heights, but not more than five stack heights, from the emission point. If visible emissions are observed from the emission point, the owner or operator shall:
 - A. Take immediate action to eliminate visible emissions, record the corrective action within 24 hours, and comply with any applicable requirements in 30 Texas Administrative Code (TAC) § 101.201, Emissions Event Reporting and Record Keeping Requirements; or
 - B. Determine opacity using 40 CFR Part 60, Appendix A, Test Method 9. If the opacity limit is exceeded, take immediate action (as appropriate) to reduce opacity to within the permitted limit, record the corrective action within 24 hours, and comply with applicable requirements in 30 TAC § 101.201, Emissions Event Reporting and Record Keeping Requirements.
33. The holder of this permit shall install, calibrate, and maintain a device to detect leaks in the baghouse associated with the Line 91 Melters (EPN 21).
 - A. The bag leak detection system shall be maintained in a manner consistent with EPA, Office of Air Quality Planning and Standards, Fabric Filter Bag Leak Detection Guidance (EPA-454/R-98-015).
 - B. The maximum signal from the bag leak detection system shall not exceed 18 picoamps (pA). The actual signal shall be checked and recorded at least four times per hour.
34. The holder of this permit shall install, calibrate, and maintain a device to monitor and record secondary voltage on the electrostatic precipitator associated with the Glass Furnaces (1901 and 1902) (EPN 15A). The monitoring device shall be calibrated in accordance with the manufacturer's specifications and shall be calibrated at least annually and shall be accurate to within a range of $\pm 2\%$ of reading; or $\pm 5\%$ over its operating range.

The minimum secondary voltage shall be maintained as follows:

- A. 2 fields operational: minimum = 36 kilovolts (kV)

- B. 3 fields operational: one field minimum secondary voltage = 36kV; two remaining fields minimum secondary voltage = 30kV

The actual secondary voltage shall be recorded at least once per day.

35. The holder of this permit shall install, calibrate, and maintain a device to monitor and record the secondary current in the electrostatic precipitator associated with the Glass Furnaces (1901 and 1902) (EPN 15A). The monitoring device shall be calibrated in accordance with the manufacturer's specifications and shall be calibrated at least annually and shall be accurate to within a range of $\pm 1\%$ of reading; or $\pm 5\%$ over its operating range.

The minimum and maximum secondary current shall be maintained as follows:

- A. 2 fields operational: secondary current for both fields between 36mA and 690mA.
B. 3 fields operational: secondary current between 170mA and 690mA

The actual secondary current shall be recorded at least once per day.

36. The holder of this permit may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging times specified, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).
37. The holder of this permit shall perform quarterly inspections to verify proper operation of the capture system to check for conditions that would reduce the collection efficiency of the emission capture system as represented. If the results of the inspections indicate that the capture system is not operating properly, the permit holder shall promptly take necessary corrective actions.
38. The control devices shall not be bypassed during normal operations.
39. The TCEQ Regional Office shall be notified as soon as possible after the discovery of any monitor malfunction that is expected to result in more than 24 hours of lost data. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director in case of extended monitor downtime. Necessary corrective action shall be taken if the downtime exceeds 5 percent of the Glass Furnaces (1901 and 1902) or Line 91 Melters operating hours in the quarter. Failure to complete any corrective action as directed by the TCEQ Regional Office may be deemed a violation of the permit.

Sampling Requirements

40. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at their own expense. Sampling ports and platforms shall be incorporated into the design of the stacks according to the specifications

set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities" prior to stack sampling. Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Office with jurisdiction.

41. During stack sampling emissions testing, the facilities shall operate at maximum represented glass pull rates, cullet usage rates, and other operating parameters. Primary operating parameters that enable determination of glass pull rates and cullet usage rates shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting.

If the plant is unable to operate at the maximum represented glass pull rates, cullet usage rates, and other operating parameters during testing, then additional stack testing shall be required when these parameters exceed the previous stack test rates by +10 percent unless otherwise determined, in writing, by the TCEQ Executive Director.

42. Sampling shall be conducted in accordance with the TCEQ Sampling Procedures Manual and U.S. EPA TMs in 40 CFR Part 60, Appendix A, and 40 CFR Part 51, Appendix M, as follows:
 - A. TM 5 or 17 for the filterable concentration of PM (front-half catch);
 - B. TM 5 or 201A, for the filterable concentration of PM₁₀ (front-half catch);
 - C. TMs 201A and 202 (or TM 5), modified with a controlled condensate method subject to approval from the TCEQ prior to sampling, for the concentration of PM₁₀ including back-half condensables;
 - D. TM 6, 6a, 6c, or 8 for the concentration of SO₂;
 - E. TM 7E, or equivalent methods, for the concentrations of NO_x and O₂;
 - F. TM 26 or 26A for the concentrations of HF;
 - G. TM 29 for the concentrations of the metals listed in Attachment A; and
 - H. TM 9 for opacity.
43. A pretest meeting shall be held with personnel from the TCEQ before the required testing and monitoring are performed. The TCEQ Regional Office shall be notified not less than 45 days prior to sampling to schedule a pretest meeting. Test methods to be used shall be determined at this pretest meeting.
 - A. Sampling shall occur within 60 days of being informed that testing is required.
 - B. The notice to the TCEQ Regional Office shall include:
 - (1) Date for pretest meeting.
 - (2) Date sampling will occur.
 - (3) Name of firm conducting sampling.
 - (4) Type of sampling equipment to be used.

- (5) Method or procedure to be used in sampling.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test results.

44. Copies of the final sampling report shall be forwarded to the TCEQ within 60 days after sampling is completed. Sampling reports shall comply with the provisions of Chapter 14 of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the TCEQ Fort Worth Regional Office.

One copy to the TCEQ Office of Air, Air Permits Division in Austin.

One copy to each appropriate local air pollution control program.

45. Alternate sampling methods and representative unit testing may be proposed by the permit holder. A written proposed description of any deviation from sampling procedures or emission sources specified in permit conditions or TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. Such a proposal must be approved, in writing, by the TCEQ Regional Director with jurisdiction and the TCEQ Office of Air, Air Permits Division in Austin at least two weeks prior to sampling.
46. A written proposed description of any deviation from sampling procedures specified in permit conditions or TCEQ or U.S. EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Office shall approve or disapprove of any deviation from specified sampling procedures.
47. Requests to waive testing for any pollutant specified shall be submitted, in writing, for approval to the TCEQ Office of Air, Air Permits Division in Austin.
48. Request for additional time to perform sampling shall be submitted to the TCEQ Regional Office with jurisdiction. Additional time to comply with the applicable federal requirements requires U.S. EPA approval, and requests shall be submitted to the TCEQ Office of Compliance and Enforcement in Austin.
49. If, as a result of stack sampling, compliance with the permitted emission rates cannot be demonstrated, the holder of this permit shall adjust any operating parameters so as to comply with Special Condition No. 1 and the permitted emission rates.
50. If the holder of this permit is required to adjust any operating parameters for compliance, then beginning no later than 60 days after the date of the test conducted, the holder of this permit shall submit two copies to the TCEQ, on a monthly basis, a record of adjusted operating parameters and daily records of glass production sufficient to demonstrate compliance with the permitted emission rates. Daily records of glass production and operating parameters shall be distributed as follows:

One copy to the TCEQ Fort Worth Regional Office.

One copy to the TCEQ Office of Air, Air Permits Division in Austin.

Recordkeeping Requirements

51. The following records shall be maintained at this facility and made available at the request of personnel from the TCEQ or any other air pollution control program having jurisdiction to demonstrate compliance with permit limitations. These records shall be totaled for each calendar month, retained for a rolling 60-month period, and include the following:
- A. Hourly and annual glass pull rates for each line (in tons);
 - B. Hours of line operation;
 - C. Duration of startup, shutdown, or malfunctions in the process;
 - D. All malfunctions and repairs of the Gypsum Drying Tunnel Fabric Filter Baghouse;
 - E. Downtime of the ESP during routine maintenance activity when complying with NSPS, Subpart CC, § 60.292(e);
 - F. Calculations that demonstrate any substitution or replacement sizing chemicals to be used are in accordance with the “Chemical Flexibility” conditions;
 - G. Hourly and annual cullet usage rates (in tons);
 - H. All monitoring data and support information as specified in 30 TAC § 122.144;
 - I. Inspections of capture systems and abatement devices shall be recorded as they occur;
 - J. Quarterly observations for visible emissions and/or opacity determinations from the plant property and all EPNs listed in Special Condition No. 7 “Table 1: Opacity Restrictions”; and
 - K. MSS activities specified in Special Condition No. 21.

Date: June 8, 2015

Emission Sources - Maximum Allowable Emission Rates

Permit Number 946A and PSDTX1025M1

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------|---|--------------------------|--------------------|---------|
| | | | lbs/hour | TPY (4) |
| 1/2/3/4/5 | Lines 92 and 93 Collectors and High-Energy Air Filtration (HEAF) - Stacks | PM | 33.50 | 146.73 |
| | | PM ₁₀ | 33.50 | 146.73 |
| | | PM _{2.5} | 33.50 | 146.73 |
| | | Total VOC | 21.61 | 94.64 |
| | | NO _x | 11.76 | 51.51 |
| | | SO ₂ | 6.53 | 28.65 |
| | | CO | 57.46 | 251.67 |
| | | NH ₃ | 36.00 | 157.68 |
| | | Formaldehyde | 8.50 | 37.23 |
| | | Phenol | 4.12 | 18.05 |
| | | Methyl Alcohol | 3.69 | 16.15 |
| 15A | Glass Furnaces (1901 and 1902) ESP - Stack | PM | 7.46 | 32.65 |
| | | PM (6) | 8.00 | 0.16 |
| | | PM ₁₀ | 7.46 | 32.65 |
| | | PM ₁₀ (6) | 8.00 | 0.16 |
| | | PM _{2.5} | 7.46 | 32.65 |
| | | PM _{2.5} (6) | 8.00 | 0.16 |
| | | VOC | 0.12 | 0.53 |
| | | NO _x | 18.32 | 80.25 |
| | | SO ₂ | 4.20 | 18.36 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------|-----------------------------|--------------------------|--------------------|---------|
| | | | lbs/hour | TPY (4) |
| | | SO ₂ (6) | 8.40 | 0.17 |
| | | CO | 0.55 | 2.40 |
| | | HF | 0.18 | 0.78 |
| | | Pb | 0.00035 | 0.00153 |
| FHFUG | 1901 Forehearth (5) | PM | 0.09 | 0.40 |
| | | PM ₁₀ | 0.09 | 0.40 |
| | | PM _{2.5} | 0.09 | 0.40 |
| | | VOC | 0.05 | 0.24 |
| | | NO _x | 0.98 | 4.28 |
| | | SO ₂ | 0.01 | 0.03 |
| | | CO | 0.82 | 3.59 |
| | | HF | 0.05 | 0.21 |
| FHFUG2 | 1902 Furnace Forehearth (5) | PM | 0.25 | 1.10 |
| | | PM ₁₀ | 0.25 | 1.10 |
| | | PM _{2.5} | 0.25 | 1.10 |
| | | VOC | 0.04 | 0.18 |
| | | NO _x | 1.46 | 6.40 |
| | | SO ₂ | <0.01 | 0.05 |
| | | CO | 1.10 | 4.80 |
| FMFUG | 1901 Forming Area (5) | PM | 1.67 | 7.30 |
| | | PM ₁₀ | 1.67 | 7.30 |
| | | PM _{2.5} | 1.67 | 7.30 |
| | | VOC | 0.75 | 3.29 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------|---|--------------------------|--------------------|---------|
| | | | lbs/hour | TPY (4) |
| | | NH ₃ | 0.13 | 0.58 |
| BFUG | 1901 Batch Plant (5) | PM | <0.01 | 0.02 |
| | | PM ₁₀ | <0.01 | 0.02 |
| | | PM _{2.5} | <0.01 | 0.02 |
| FUGRM | 1901 Batch Drop Railcar Unloading (5) | PM | <0.01 | <0.01 |
| | | PM ₁₀ | <0.01 | <0.01 |
| | | PM _{2.5} | <0.01 | <0.01 |
| MXBIN1 | 1901 E-Glass Mixing Bin (North) (5) | PM | <0.01 | <0.01 |
| | | PM ₁₀ | <0.01 | <0.01 |
| | | PM _{2.5} | <0.01 | <0.01 |
| MXBIN2 | 1901 E-Glass Mixing Bin (South) (5) | PM | <0.01 | <0.01 |
| | | PM ₁₀ | <0.01 | <0.01 |
| | | PM _{2.5} | <0.01 | <0.01 |
| 16 | Line 91 Collection Wet Scrubber No. 1 - Stack | PM | 4.50 | 19.08 |
| | | PM ₁₀ | 4.50 | 19.08 |
| | | PM _{2.5} | 4.50 | 19.08 |
| | | Total VOC | 3.84 | 12.38 |
| | | NO _x | 1.29 | 5.63 |
| | | SO ₂ | 0.01 | 0.04 |
| | | CO | 9.15 | 40.17 |
| | | NH ₃ | 4.20 | 18.37 |
| | | Formaldehyde | 0.68 | 2.97 |
| | | Phenol | 0.75 | 3.29 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------|---|--------------------------|--------------------|---------|
| | | | lbs/hour | TPY (4) |
| 17 | Line 91 Collection Wet Scrubber No. 2 - Stack | PM | 4.50 | 19.08 |
| | | PM ₁₀ | 4.50 | 19.08 |
| | | PM _{2.5} | 4.50 | 19.08 |
| | | Total VOC | 3.84 | 12.38 |
| | | NO _x | 1.29 | 5.63 |
| | | SO ₂ | 0.01 | 0.04 |
| | | CO | 9.15 | 40.17 |
| | | NH ₃ | 4.20 | 18.37 |
| | | Formaldehyde | 0.68 | 2.97 |
| | | Phenol | 0.75 | 3.29 |
| 18 | Line 91 Collection Wet Scrubber No. 3 - Stack | PM | 4.50 | 19.08 |
| | | PM ₁₀ | 4.50 | 19.08 |
| | | PM _{2.5} | 4.50 | 19.08 |
| | | Total VOC | 3.84 | 12.38 |
| | | NO _x | 1.29 | 5.63 |
| | | SO ₂ | 0.01 | 0.04 |
| | | CO | 9.15 | 40.17 |
| | | NH ₃ | 4.20 | 18.37 |
| | | Formaldehyde | 0.68 | 2.97 |
| | | Phenol | 0.75 | 3.29 |
| 19 | Line 91 Collection Wet Scrubber No. 4 - Stack | PM | 4.50 | 19.08 |
| | | PM ₁₀ | 4.50 | 19.08 |
| | | PM _{2.5} | 4.50 | 19.08 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------|---|--------------------------|--------------------|---------|
| | | | lbs/hour | TPY (4) |
| | | Total VOC | 3.84 | 12.38 |
| | | NO _x | 1.29 | 5.63 |
| | | SO ₂ | 0.01 | 0.04 |
| | | CO | 9.15 | 40.17 |
| | | NH ₃ | 4.20 | 18.37 |
| | | Formaldehyde | 0.68 | 2.97 |
| | | Phenol | 0.75 | 3.29 |
| 20 | Line 91 Curing Oven Wet Scrubber (with Ring-Burner) - Stack | PM | 4.51 | 18.96 |
| | | PM ₁₀ | 4.51 | 18.96 |
| | | PM _{2.5} | 4.51 | 18.96 |
| | | Total VOC | 7.82 | 34.24 |
| | | NO _x | 4.38 | 19.18 |
| | | SO ₂ | 0.01 | 0.04 |
| | | CO | 22.28 | 97.58 |
| | | NH ₃ | 7.02 | 30.75 |
| | | Formaldehyde | 1.60 | 7.00 |
| | | Phenol | 1.00 | 4.38 |
| 21 | Line 91 Melters Baghouse No. 1 - Stack | PM | 0.99 | 4.34 |
| | | PM ₁₀ | 0.99 | 4.34 |
| | | PM _{2.5} | 0.99 | 4.34 |
| | | Total VOC | 3.72 | 16.27 |
| | | NO _x | 0.11 | 0.50 |
| | | SO ₂ | 1.12 | 4.92 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------|---|--------------------------|--------------------|----------|
| | | | lbs/hour | TPY (4) |
| | | CO | 5.27 | 23.08 |
| | | Boron Oxide | 0.40 | 1.75 |
| | | Pb | 0.000166 | 0.000736 |
| | | As | 0.000223 | 0.000977 |
| | | Cd | 0.000088 | 0.000389 |
| | | Cr | 0.00425 | 0.0186 |
| 22 | Line 91 Cold End/Horizontal Band Saw Baghouse No. 2 - Stack | PM | 0.06 | 0.26 |
| | | PM ₁₀ | 0.06 | 0.26 |
| | | PM _{2.5} | 0.06 | 0.26 |
| 23 | Line 91 Batch Loading Shed Baghouse No. 3 - Stack | PM | 0.03 | 0.13 |
| | | PM ₁₀ | 0.03 | 0.13 |
| | | PM _{2.5} | 0.03 | 0.13 |
| 24 | Line 91 Unload Shed Baghouse No. 4 - Stack | PM | 0.03 | 0.13 |
| | | PM ₁₀ | 0.03 | 0.13 |
| | | PM _{2.5} | 0.03 | 0.13 |
| 25 | Line 91 Melter Dust Refeed Baghouse No. 5 - Stack | PM | 0.03 | 0.13 |
| | | PM ₁₀ | 0.03 | 0.13 |
| | | PM _{2.5} | 0.03 | 0.13 |
| 26 | Line 91 Mixed Batch Day Bin Baghouse No. 6 - Stack | PM | 0.03 | 0.13 |
| | | PM ₁₀ | 0.03 | 0.13 |
| | | PM _{2.5} | 0.03 | 0.13 |
| 27 | Line 91 Mixed Batch Day Bin Baghouse No. 7 - Stack | PM | 0.03 | 0.13 |
| | | PM ₁₀ | 0.03 | 0.13 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------------|--|--------------------------|--------------------|---------|
| | | | lbs/hour | TPY (4) |
| | | PM _{2.5} | 0.03 | 0.13 |
| 28 | Line 91 Mixed Batch Day Bin Baghouse No. 8 - Stack | PM | 0.03 | 0.13 |
| | | PM ₁₀ | 0.03 | 0.13 |
| | | PM _{2.5} | 0.03 | 0.13 |
| 29 | Line 91 Mixed Batch Day Bin Baghouse No. 9 - Stack | PM | 0.03 | 0.13 |
| | | PM ₁₀ | 0.03 | 0.13 |
| | | PM _{2.5} | 0.03 | 0.13 |
| 35 | South Trim Waste Re-Feed Baghouse | PM | 0.03 | 0.12 |
| | | PM ₁₀ | 0.03 | 0.12 |
| | | PM _{2.5} | 0.03 | 0.12 |
| 36 | North Trim Waste Re-Feed Baghouse | PM | 0.03 | 0.12 |
| | | PM ₁₀ | 0.03 | 0.12 |
| | | PM _{2.5} | 0.03 | 0.12 |
| 37 | Off-Line Trim Waste Re-Feed Baghouse | PM | 0.08 | 0.36 |
| | | PM ₁₀ | 0.08 | 0.36 |
| | | PM _{2.5} | 0.08 | 0.36 |
| Tanks 34, 35, 36, 37, and 38 | E-Glass Mixing Tanks | VOC | 0.31 | 1.54 |
| RA901 | 1901 E-Glass Reclaim Area | PM | 0.62 | 2.72 |
| | | PM ₁₀ | 0.62 | 2.72 |
| | | PM _{2.5} | 0.62 | 2.72 |
| | | VOC | 0.45 | 1.97 |
| | | NO _x | 0.10 | 0.44 |
| | | SO ₂ | <0.01 | 0.01 |

Emission Sources - Maximum Allowable Emission Rates

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates (7) | |
|------------------------|-------------------------------|--------------------------|--------------------|---------|
| | | | lbs/hour | TPY (4) |
| | | CO | 0.08 | 0.35 |
| | | NH ₃ | 0.10 | 0.44 |
| DRYTUNFUG | Gypsum Drying Tunnel (5) | PM | 0.02 | 0.088 |
| | | PM ₁₀ | 0.02 | 0.088 |
| | | PM _{2.5} | 0.02 | 0.088 |
| | | Total VOC | 0.14 | 0.61 |
| | | NO _x | 0.15 | 0.66 |
| | | SO ₂ | <0.01 | <0.01 |
| | | CO | 0.13 | 0.55 |
| | | HF | 0.01 | 0.04 |
| OGMFUG | Off-Line Grooving Machine (5) | PM | 0.14 | 0.61 |
| | | PM ₁₀ | 0.14 | 0.61 |
| | | PM _{2.5} | 0.14 | 0.61 |
| MSSFUG | MSS Fugitives (5) | PM | <0.40 | <1.00 |
| | | PM ₁₀ | <0.40 | <1.00 |
| | | PM _{2.5} | <0.40 | <1.00 |
| | | VOC | <0.40 | <1.00 |
| | | NO _x | <0.40 | <1.00 |
| | | SO ₂ | <0.40 | <1.00 |
| | | CO | <0.40 | <1.00 |
| | | NH ₃ | <0.40 | <1.00 |
| | | Formaldehyde | <0.40 | <1.00 |
| | | Phenol | <0.40 | <1.00 |

Emission Sources - Maximum Allowable Emission Rates

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 - NO_x - total oxides of nitrogen
 - SO₂ - sulfur dioxide
 - PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 - PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 - PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
 - CO - carbon monoxide
 - NH₃ - ammonia
 - HF - hydrogen fluoride
 - Pb - lead
 - As - arsenic
 - Cd - cadmium
 - Cr - chromium
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Emission rates apply during inspection, cleaning, and maintenance of Glass Furnaces 1901 and 1902 dry scrubber.
- (7) Planned startup and shutdown emissions are included. Maintenance activities, except as specified in Special Condition No. 21, are not authorized by this permit and will need separate authorization, unless the activity can meet the conditions of 30 TAC § 116.119.

Date: June 8, 2015